COMPLETE LISTING OF CLAIMS IN THE CASE

Please amend Claims 1, 8, 11, 12, 14 and 15 as follows:

1. (Currently Amended) In a computer network, a method for predicting an optimum transmission frame length, comprising:

assessing transmission channel quality in said computer network;

calculating an optimum length for said transmission frame;

adjusting the length of said transmission frame;

transmitting said transmission frame of said adjusted length; and

assessing the quality of said transmission of said transmission frame, wherein said transmission channel quality is assessed recursively using a Kalman filter.

2. (Original) A method as described in Claim 1 wherein said computer network is implemented as a wireless Ethernet.

3. (Original) A method as described in Claim 1 wherein said assessing of said transmission channel quality is achieved by measuring the bit error rate of said transmission channel.

4. (Original) A method as described in Claim 3 wherein said measuring said bit error rate comprises measuring said bit error rate of a previous transmission.

5. (Original) A method as described in Claim 1 wherein said calculating of said optimum length for said transmission frame is accomplished in a dedicated transmitting device.

6. (Original) A method as described in Claim 1 wherein said calculating of said optimum length for said transmission frame is accomplished in a computer.

7. (Original) The method described in Claim 1 wherein said assessing the quality of transmission is accomplished by measuring the bit error rate of said transmission.

8. (Currently Amended) TA system for optimizing transmission frame size in a network, comprising:

a network comprising one or more computers and one or more wireless communication devices;

wireless communication communicatively connecting said computers and said wireless communication devices in said network wherein said wireless communication transmits data using data transmission frames; and[[,]]

a transmission device enabled to adjust the length of said transmission frames based on ~~a parameter.~~a method comprising:

assessing transmission channel quality in said computer network;

calculating an optimum length for said transmission frame;

adjusting the length of said transmission frame;

transmitting said transmission frame of said adjusted length; and

assessing the quality of said transmission of said transmission frame, wherein said transmission channel quality is assessed recursively using a Kalman filter.

9. (Original) The system described in Claim 8 wherein said network is implemented as a wireless Ethernet..

10. (Original) The system described in Claim 8 wherein said transmission device adjusts said length of said transmission frames to a predicted optimum frame length.

11. (Currently Amended) The system described in Claim 8 wherein an element of said network [[of]] is enabled to assess the bit error rate of transmission in said wireless communication..

12. (Currently Amended) The system described in Claim 8 wherein an element of said network [[of]] is enabled to assess [[the]] random processing noise in said wireless communication.

13. (Original) The system described in Clalm 8, wherein said optimum frame length is predicted by use of a Kalman filter.

14. (Currently Amended) The system described in Claim 13 wherein said Kalman filter employs [[said]] random processing noise and [[said]] bit error rate in said predicting of said optimum frame length.

15. (Currently Amended) A data transmission frame for network communication comprising:
a header section comprising one or more fields of header data;
a data field sequentially coupled with said header section and having a length capable of adjustment; and

an error checking field sequentially coupled with said data field and said header section, wherein said data field is adjusted to an optimum length for transmission using a method comprising:

assessing transmission channel quality in said computer network;

calculating an optimum length for said transmission frame;

adjusting the length of said transmission frame;

transmitting said transmission frame of said adjusted length; and

assessing the quality of said transmission of said transmission frame, wherein said transmission channel quality is assessed recursively using a Kalman filter.

16. (Original) A data transmission frame as described in Claim 15 wherein said data transmission frame is an Ethernet standard data transmission frame.

17. (Original) A data transmission frame as described in Claim 15 wherein said data field is adjusted using ~~said optimum length for transmission by~~ a prediction of said optimum length.

18. (Original) A data transmission frame as described in Claim 17 wherein said prediction of said optimum length for transmission calculated by a Kalman filter.

19. (Original) A data transmission frame as described in Claim 17 wherein said prediction of said optimum length for transmission is calculated by reference to transmission bit error rate.

20. (Original) A data transmission frame as described in Claim 17 wherein said prediction of said optimum length for transmission is calculated by reference to random processing noise.